THE GEOGRAPHICAL distribution of the liverworts of northern Norway is comparatively little known. To aid in the elucidation of this subject, Dr. H. Wilh. Arnell undertook extensive journeys through that region in the summer of 1891. He has brought together the results of his studies and examination of literature in a quarto pamphlet, under the title "Lebermoosstudien im nordlichen Norwegen," giving an account of the vertical and superficial distribution of 115 species. It may be obtained of the author at Jönköping.

PROF. J. G. LEMMON, of Oakland, California, has published a "handbook of West-American cone-bearers." It contains brief popular descriptions, and also attempts to establish approved English names. In the great confusion of names in local use the attempt deserves success, and no one is better fitted to speak of Pacific forests than Professor Lemmon.

PROFESSOR L. H. BAILEY has published an excellent paper on cross-breeding and hybridizing.[1] The philosophy of the crossing of plants is considered with reference to their improvement under cultivation, and a brief bibliography of the subject is given. The paper was originally given as a lecture before the Massachusetts State Board of Agriculture.

DR. C. HART MERRIAM has published a list of the plants of the Pribilof or Seal Islands[2] (Bering Sea), based upon specimens collected from July 28 to August 10, 1891. The collection contains about 1000 specimens, representing over 130 species. This is far the largest collection that has been made, or reported from these islands. There is not a tree or bush on the islands, the highest woody plant being the dwarf Salix reticulata. Some critical notes are furnished by Mr. J. N. Rose, and various groups have been referred to well-known specialists.

NOTES AND NEWS.

MR. THEO. HOLM has resigned his position in the National Museum and accepted a place in the Division of Vegetable Pathology.

THE SUMMER course for the study of shrubs and trees at the Arnold Arboretum proved highly successful. About thirty persons were in attendance.

PROFESSOR DR. ALEXANDER BATALIN has been appointed Director of the Imperial Botanic Gardens at St. Petersburg in succession to the late Dr. E. Regel.

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[1] The Rural Library, vol. 1, no. 6, April, 1892.

[2] Proc. Biol. Soc. of Washington, VIII, 133-150, July, 1892.

THE CHEMICAL COMPOSITION of the pollen of Pinus sylvestris has been investigated by K. Kresling (*Archiv. Pharm.*), and is found to be wonderfully complex. Some thirty or forty complex compounds are listed, and their interpretation is at present out of question.

THE APPROPRIATION for special botanical work in the Botanical Division of the Department of Agriculture has been reduced from $40,000 to $25,000. This is unfortunate in view of the fact that the division had begun a systematic exploration of our least known regions, and the results of the next few years promised to be very great.

A PROPOS of the reference to the great number of novelties among the hepatics described by Colenso (this journal, p. 219, *ante*) should be mentioned a paper by Stephani in the Journal of the Linnean Society, no. 201. After examination of the authentic specimens of 149 species sent to Kew by Colenso, Mr. Stephani concludes that 22 are good species, while 117 are reduced to synonyms!

TWO IMPORTANT contributions to our knowledge of buds have recently appeared; one, by Dr. J. Grüss, in Pringsheim's *Jahrbücher für wissenschaftliche Botanik* XXIII. pp. 637–703; the other by W. Russell in the *Annales des Sciences Naturelles* (botanique) VII. XV. pp. 95—202. Dr. Grüss treats chiefly the anatomy, development, functions and adaptations of the scales of winter buds of trees; Mr. Russell discusses the origin and development of multiple growing points. The latter concludes that the law of the unity of the axillary bud has no exceptions. The accessory buds arise later from the single axillary growing point.

A NOMENCLATOR BRYOLOGICUS, after the plan of Steudel's *Nomenclator botanicus* with the addition of bibliographical references, was undertaken in 1864 by M. le général Paris, at the suggestion of his friend, Dr. W. P. Schimper. For various reasons the work was delayed. He now proposes to take up this work again, and appeals to bryologists to send copies of their papers containing descriptions of new species, or at least references to the place of publication that he may consult them. The work will be of great value to bryologists, and it is to be hoped that it will be vigorously prosecuted and published within a reasonable time. The author may be addressed at Rennes, France.

DRS. ASCHERSON, Engler, Schumann and Urban, of Berlin, seeing the necessity of some modification of the laws of botanical nomenclature formulated in 1867, in order to prevent the confusion likely to be caused by Kuntze's Revisio generum, have proposed the following amendments, which refer only to genera:

"I. The starting point of the priority of the genera, as well as the species, is the year 1752, resp. 1753.

"II. Nomina nuda and seminuda are to be rejected. Pictures alone, without diagnoses, do not claim any priority of a genus.

"III. Similar names are to be conserved, if they differ by ever so little in the last syllable; if they only differ in the mode of spelling the newer one must fall.

"IV. The names of the following larger or universally known genera are to be conserved, though, after the strictest rules of priority, they must be rejected; in many of them the change of the names now used is by no means sufficiently proved."

Regarding the last, they remark:

"The impulse that led to the acknowledgement of the right of priority was only the vivid desire to create a stable nomenclature. If we see that by the absolute and unlimited observance of the principle we probably gain the contrary of what we intended, we, who have ourselves made the rules of priority as a law, have the right to amend the latter." They, therefore, propose to retain seventy-eight genera, embracing nearly 5000 species, in spite of the fact that there are possibly equivalent earlier names. A circular letter containing these proposals is being sent to botanists engaged in descriptive work, with a request that they indicate their adherence to those propositions, or suggest any modifications they desire.

MR. SPENCER LEM. MOORE, in a supplementary paper[1] to the one noticed in this journal, *ante*, p. 102, corrects some of the statements made therein. His conclusion that the callus which closes the sieve plates of the vegetable marrow was of proteid nature, was due to working with abnormal material. "Some of the plates are obliterated by true callus, which neither gives proteid reactions nor peptonizes; others, at the end of the season, are blocked by the proteid body described in the former memoir." For the latter substance he proposes the name "paracallus."

He has also studied the reactions of the cell walls, which are supposed to show that these have enclosed proteid matters in the course of their growth. He concludes that these reactions are not due to proteids, at least not to peptonizing proteids, but probably depend upon glucosides, a point which can sometimes be proved. He suggests that "the presence of glucoside in lignified cell walls may possibly give to them their property of conducting fluid, *à propos* of Haberlandt's discovery of a glucoside as the osmotically active substance in Mimosa pudica."

[1] Journal of the Linnean Society, XXIX, p. 231.